

Serpula proboscidea, Gm. Founded on two figures of Martini which I do not venture to explain.

————— *protensa*, Gm.

————— *echinata*, Gm.

————— *contortuplicata*, L.

————— *decussata*, Gm. Founded on Lister, t. 547. f. 4. (copied in Martini, 2. f. 17.) from Barbadoes, and is probably a *Vermetus*: I suspect that Dr. Grube has conceived under this name *Vermetus subcancellatus*, Born.

Spirorbis nautiloides, Lam.

EXPLANATION OF PLATE III.

Fig. A. The operculum of *Serpula vermicularis*, L.

Fig. B. ————— *aspera*, Ph.

Fig. C. ————— *subquadrangula*, Ph.

Fig. D. The operculum of *Placostegus crystallinus*, Sc.

Fig. E. ————— *fimbriatus*, D. Ch.

Fig. F. The operculum of *Vermilia triquetra*, Lam.

Fig. G. ————— *infundibulum*, Gm.

Fig. H. ————— *clavigera*, Ph.

Fig. J. ————— *calyptata*, Ph.

Fig. K. ————— *multicristata*, Ph.

Fig. L. ————— *elongata*, Ph.

Fig. M. ————— *quinguelineata*, Ph.

Fig. N. ————— *polytrema*, Ph.

Fig. O. ————— *emarginata*, Ph.

Fig. P. The operculum of *Pomatoceros tricuspis*, Ph.

Fig. Q. ————— *Eupomatus uncinatus*, Ph.

Fig. R. ————— *pectinatus*, Ph.

Fig. S. The operculum of *Spirorbis Cornu Arietis*, Ph.

Fig. T. The operculum of *Vermilia triquetra*, Blainv., according to the 'Diet. d. Sci. Nat.' planches. From the description, it would be the operculum of *Serpula vermicularis*.

XIX. — *Catalogue of Irish Entozoa, with observations.* By O'BRYEN BELLINGHAM, M.D., Fellow of and Professor of Botany to the Royal College of Surgeons in Ireland, Member of the Royal Zoological, Geological and Natural History Societies of Dublin, &c.

[Continued from vol. xiii. p. 430.]

Genus 13. PENTASTOMA.

(Derived from πέντε, *quinque*, and στόμα, *os*.)

Gen. Char.—Body flattened or slightly cylindrical. Mouth situated between two pores upon each side, each pore having a hook-like process projecting from it. The five orifices placed in a lunate manner upon the head.

THE genus *Pentastoma* is named so from the presence of five pores upon the head, the central one being regarded as the mouth. Rudolphi separated it from the genus *Polystoma* with

which it had been previously united; he likewise removed it from the order *Cestoidea* to *Trematoda*, to which it properly belongs.

The species are not numerous; they inhabit the frontal sinus, the lungs or peritonæal cavity, and never occur in the alimentary canal. Hitherto species of this genus have been found only in a few mammalia and reptiles; they have never been detected in either birds or fish.

*Pentastoma tanioides**. Frontal sinus of dog (*Canis familiaris*).

Order 4. CESTOIDEA.

(Derived from *κεστος*, *cingulum*, and *εἶδος*, *forma*.)

The order *Cestoidea* is characterized as follows. Body elongated, flattened, soft, continuous or articulated. Head very seldom provided with simple lips, but in almost all cases furnished with two or four *bothrii*, depressions or suckers: all the individuals hermaphrodite.

The Entozoa included in the order *Cestoidea* do not form a very natural family; the head differs so much in the several genera; in some being flattened, pyramidal or tetragonal, with two or four opposite depressions, while in others it is truncate, hemispherical or globular, and provided with a proboscis which is often armed with a circle of hook-like processes. The neck is as frequently absent as present. The body is elongated, flat, soft, continuous or articulated, with marginal or central pores. The species occur in mammalia, birds, reptiles and fish. They inhabit almost exclusively the alimentary canal.

Genus 14. SCOLEX.

(Derived from *σκώληξ*, *vermis*.)

Gen. Char.—Body flattened, soft and continuous, without any trace of articulation, enlarging into a head anteriorly, posteriorly attenuated. Head tetragonal, provided with four ear-shaped depressions.

This genus was established by Müller, and has been adopted

* The *Pentastoma tanioides* was named so from its resemblance to the *Tenia*: it is not a common species; I possess but a single specimen.

It measures upwards of $2\frac{1}{2}$ inches in length, and half an inch in breadth at its widest part. Colour whitish, of a dirty yellow-brown along the median line. Body flattened, anteriorly broad, and diminishing gradually to the posterior extremity; marked with numerous transverse elevated lines, resembling the joints of the *Tenia* when contracted; margin crenate; dorsal surface prominent along the median line. Pores five in number, small, and placed in the form of a half-moon upon the abdominal surface of the anterior extremity. The two lateral pores upon each side of the mouth of an ovate shape, with a little, sharp, hook-like process projecting from each.

by all zoologists since. It contains but a single species, and is confined almost exclusively to fish, never occurring in either mammalia, birds or reptiles; the alimentary canal is the usual habitat, rarely the abdominal cavity.

M. Leuchart looks upon the *Scolex* as the young of the *Anthocephalus*, but without reason. De Blainville, amongst other characters, describes two red spots as seen at the posterior part of the head of the animal; I have only observed this in the *Scolex* from the sole (*Solea vulgaris*). Rudolphi in his first work, 'Entozoorum Historia Naturalis,' distinguished six species of *Scolex* (four of which were doubtful); but in his last work, 'Synopsis Entozoorum,' he admits but one species, the *Scolex polymorphus*.

<i>Scolex polymorphus</i> .	{	Intestines of turbot (<i>Pleuronectes maximus</i>). Intestines and pyloric appendages of holibut (<i>Hippoglossus vulgaris</i>). Intestines of sole (<i>Solea vulgaris</i>). Stomach and intestines of dab (<i>Platessa Li-</i> <i>manda</i>). Pyloric appendages of ling (<i>Lota Molva</i>). Intestines of conger-eel (<i>Anguilla Conger</i>). Intestines of lump-sucker (<i>Cyclopterus Lum-</i> <i>pus</i>).
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GENUS 15. TETRARHYNCHUS.

(Derived from *τετρας*, *quatuor*, and *ρύγχος*, *proboscis*.)

Gen. Char.—Body flat, continuous, without articulations, terminating posteriorly in a simple or forked extremity. Head provided with two lateral bipartite depressions (appearing at times to constitute four), and with four short retractile tentacula armed with recurved hooks.

This genus was established by Bosc under the name *Hepatoxylon*; subsequently Rudolphi changed it to *Tetrarhynchus*. It is not numerous in species, twelve only being enumerated by Rudolphi. The species are almost confined to fish; one occurred in the turtle, but they have never been found in either mammalia or birds. They seldom inhabit the alimentary canal.

1. *Tetrarhynchus grossus* *. { Abdominal cavity of salmon (*Salmo Salar*).
2. ————— *solidus* † (Drummond). { Abdominal cavity of salmon (*Salmo Salar*).

* The *Tetrarhynchus grossus* I have inserted on Dr. Drummond's authority, as I have not met with it. He has given a figure and description of this species in the second vol. of the new series of the 'Magazine of Nat. History,' p. 571.

† The *Tetrarhynchus solidus* was discovered and named by my friend

GENUS 16. *LIGULA*.(Derived from *ligula*, a strap.)

Gen. Char.—In the first degree of its development. Body very long, flat, continuous, without articulations, having a central longitudinal depression; without any appearance of head or of organs of generation.

In the perfect state. Body very long, flat, continuous, without articulations. Head provided with a simple depression upon each side; ovaries in a single or double series, with the lemnisci in the median line.

The genus *Ligula* was established by Bloch and Goëtze, and has been adopted by zoologists since. The species are not numerous, seven only being enumerated by Rudolphi. They occur in birds and fish (principally the fresh-water species); one species has been found in the seal (*Phoca vitulina*). They inhabit the abdominal cavity of fish, and the alimentary canal of birds.

The opinion put forward by Rudolphi of the mode of development of the *Ligula* is curious, viz. that it begins life in fish, and arrives at its perfect state of development in birds which feed upon these fish. He founds his conclusion upon the fact, that the *Ligula* occurs only in the peritonæal cavity of fish and in the intestinal canal of birds; in addition, he has never, in the *Ligula* of fish, found the ovaries developed as they are in birds; and in Austria, where the fish which commonly contain *Ligula* do not occur, he never could discover the *Ligula* in the aquatic birds. However, Bremser does not coincide with Rudolphi upon this point; and De Blainville asks very naturally, what is the use of the ova being developed in the ovaries of the *Ligula* of birds? and how do these find their way into the abdominal cavity of fish?

The *Ligula* appears to be the only species of Entozoon ever used as food by man. I have learned from my friend Dr. Scouler, that in some parts of Italy where the *Ligula* is particularly abundant in the fish, this species affords a favourite food to the people.

Ligula sparsa. { Small intestines of crested grebe (*Podiceps cristatus*).

Dr. Drummond of Belfast, who was kind enough to communicate specimens to me; recently I found a single specimen of this species in the abdominal cavity of the salmon (*Salmo Salar*); it lay loosely attached to the peritonæal coat of the intestines by the proboscides of the head. I can bear testimony to the accuracy of the description given of it by Dr. Drummond, which is contained in the same vol. of the 'Mag. of Nat. Hist.' as that last noticed, and is illustrated by several figures. I shall only add, that in the recent animal a number of bodies like ova were seen, with the assistance of a lens, upon each side of the depressions on the head, lying apparently under the integuments.